

cuous, which, by putting on a less aperture, may be found to vanish; and therefore, both for the discovery of the fixt Star, and for finding the *Satellites* of *Jupiter*, before it be out of the day, or twilight, I alwayes leave the Object-glass as clear without any aperture as I can, and have thereby been able to discover the *Satellites* a long while before; I was able to discern them, when the smaller apertures were put on; and at other times, to see multitudes of other smaller Stars, which a smaller aperture makes to disappear.

In that notable *Asterism* also of the Sword of *Orion*, where the ingenious Monsieur *Hugens van Zulichem* has discovered only three little Stars in a cluster, I have with a thirty six foot Glass, without any aperture (the breadth of the Glass being about some three inches and a half) discover'd five, and the twinkling of divers others up and down in divers parts of that small milky Cloud.

So that 'tis not unlikely, but that the meliorating of *Telescopes* will afford as great a variety of new Discoveries in the Heavens, as better *Microscopes* would among small terrestrial Bodies, and both would give us infinite cause, more and more to admire the omnipotence of the Creator.

Observ. LX. Of the Moon.

HAVING a pretty large corner of the Plate for the seven Starrs, void, for the filling it up, I have added one small *Specimen* of the appearance of the parts of the Moon, by describing a small spot of it, which, though taken notice of, both by the Excellent *Hevelius*, and called *Mons Olympus* (though I think somewhat improperly, being rather a vale) and represented by the Figure X, of the 38. *Scheme*, and also by the Learn'd *Ricciolus*, who calls it *Hipparchus*, and describes it by the Figure Y, yet how far short both of them come of the truth, may be somewhat perceiv'd by the draught, which I have here added of it, in the Figure Z, (which I drew by a thirty foot Glass, in October 1664. just before the Moon was half inlightned) but much better by the Reader's diligently observing it himself, at a convenient time, with a Glass of that length, and much better yet with one of threescore foot long; for through these it appears a very spacious Vale, incompass'd with a ridge of Hills, not very high in comparison of many other in the Moon, nor yet very steep. The Vale it self ABCD, is much of the figure of a Pear, and from several appearances of it, seems to be some very fruitful place, that is, to have its surface all covered over with some kinds of vegetable substances; for in all positions of the light on it, it seems to give a much fainter reflection then the more barren tops of the incompassing Hills, and those a much fainter then divers other cragg'd, chalky, or rocky Mountains of the Moon. So that I am not unapt to think, that the Vale may have

Vegetables

Vegetables *analogus* to our Grass, Shrubs, and Trees; and most of these incompassing Hills may be covered with so thin a vegetable Coat, as we may observe the Hills with us to be, such as the short Sheep pasture which covers the Hills of *Salisbury* Plains.

Up and down in several parts of this place here describ'd (as there are multitudes in other places all over the surface of the Moon) may be perceived several kinds of pits, which are shap'd almost like a dish, some bigger, some less, some shallower, some deeper, that is, they seem to be a hollow *Hemisphere*, incompass'd with a round rising bank, as if the substance in the middle had been digg'd up, and thrown on either side. These seem to me to have been the effects of some motions within the body of the Moon, *analogus* to our Earthquakes, by the eruption of which, as it has thrown up a brim, or ridge, round about, higher then the Ambient surface of the Moon, so has it left a hole, or depression, in the middle, proportionably lower; divers places resembling some of these, I have observ'd here in *England*, on the tops of some Hills, which might have been caus'd by some Earthquake in the younger dayes of the world. But that which does most incline me to this belief, is, first, the generality and diversity of the Magnitude of these pits all over the body of the Moon. Next, the two experimental wayes, by which I have made a representation of them.

The first was with a very soft and well temper'd mixture of Tobacco-pipe clay and Water, into which, if I let fall any heavy body, as a Bullet, it would throw up the mixture round the place, which for a while would make a representation, not unlike these of the Moon; but considering the state and condition of the Moon, there seems not any probability to imagine, that it should proceed from any cause *analogus* to this; for it would be difficult to imagine whence those bodies should come; and next, how the substance of the Moon should be so soft; but if a Bubble be blown under the surface of it, and suffer'd to rise, and break; or if a Bullet, or other body, sunk in it, be pull'd out from it, these departing bodies leave an impression on the surface of the mixture, exactly like these of the Moon, save that these also quickly subside and vanish. But the second, and most notable, representation was, what I observ'd in a pot of boyling Alabaster, for there that powder being by the eruption of vapours reduc'd to a kind of fluid consistence, if, whilst it boyls, it be gently remov'd besides the fire, the Alabaster presently ceasing to boyl, the whole surface, especially that where some of the last Bubbles have risen, will appear all over covered with small pits, exactly shap'd like these of the Moon, and by holding a lighted Candle in a large dark Room, in divers positions to this surface, you may exactly represent all the *Phænomena* of these pits in the Moon, according as they are more or less inlightned by the Sun.

And that there may have been in the Moon some such motion as this, which may have made these pits, will seem the more probable, if we suppose it like our Earth, for the Earthquakes here with us seem to proceed from some such cause, as the boyling of the pot of Alabaster,

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